

**LEAK DETECTION AND REPAIR  
OF EQUIPMENT IN BENZENE SERVICE  
FOR THE PERIOD  
JULY 1993 THROUGH DECEMBER 1993**

**USS CLAIRTON WORKS  
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**APPENDIX A**

**SUMMARY OF RECORD KEEPING, LEAK DETECTION  
MONITORING, AND INITIAL AND SUBSEQUENT SEMIANNUAL  
REPORTING REQUIREMENTS**



**40 CFR 61 Subpart L**  
**National Emission Standard for Benzene Emissions from Coke By-Product Recovery Plants**

**1. Record Keeping Requirements Pertaining to the Design of Control Equipment**  
(records must be stored in a readily accessible location for at least 2 years)

- (a) Detailed schematics, design specifications, and piping and instrumentation diagrams
- (b) Dates and descriptions of any changes in (a)
- (c) Dates of fugitive monitoring and maintenance inspections and names of firms conducting these activities
- (d) Descriptions of any visible defects in source or control equipment, method and date of repair
- (e) Leaks detected, dates of attempted and actual repair, method of repair
- (f) Descriptions of other system abnormalities

**2. Initial Reporting Requirements**

- (a) Type of source
- (b) For equipment in benzene service: equipment and process unit I.D., percent by weight of benzene in fluid at the equipment, process fluid state in the equipment (gas/vapor or liquid) - Equipment in vacuum service also must be identified
- (c) Method of compliance (e.g. gas blanketing, monthly leak detection and repair)

**3. Subsequent Semiannual Reporting Requirements**

- (a) Descriptions of any visible source defects
- (b) Number of leaks detected and repaired
- (c) Descriptions of any system abnormalities found and repairs made
- (d) Revisions to 2.

**40 CFR 61 Subpart L**

**National Emission Standard for Benzene Emissions from Coke By-Product Recovery Plants**

**Applicable Sources**

tar decanters, tar storage tanks, tar-intercepting sumps, flushing-liquor circulation tanks, light-oil sumps, light-oil condensers, light-oil decanters, wash-oil decanters, wash-oil coolers, naphthalene processing, final coolers, final-cooler cooling towers, benzene storage tanks, BTX storage tanks, light-oil storage tanks, excess ammonia-liquor storage tanks

**Applicable Equipment in Benzene Service**  
valves, exhausters, pressure relief devices, sampling connection systems, open-ended valves or lines, flanges or other connectors, control devices or systems

Unit	Leak Definition	Frequency of Monitoring	Leak Repair Requirement
Process Vessels, Storage Tanks, Tar-intercepting Sumps (Section 61.132)  (Excludes those units with closed-vent system and carbon adsorbers)	> 500 ppmv	Semiannual & any other time after control system is repressurized w/ blanketing gas following removal of cover or opening of access hatch  Maintenance inspection of the control system required annually	1st attempt of repair within 5 days; Final repairs within 15 days
Light-Oil Sumps (Section 61.133)	Ibid.	Ibid.	Ibid.
Naphthalene Processing, Final Coolers, Final-Cooler Cooling Towers	No ("Zero") Emissions		
Exhausters (excluding those units in vacuum service - Section 61.135)	> 10,000 ppmv	Quarterly	1st attempt of repair within 5 days; Final repairs within 15 days

**40 CFR 61 Subpart V**  
**National Emission Standard for Equipment Leaks (Fugitive Emissions Sources)**

1. Record Keeping Requirements Pertaining to Detected Leaks (records must be stored in a readily accessible location for at least 2 years)

- (a) Leaking source must be identified with weatherproof and readily visible tag; tag must not be removed until leak is repaired (valves excluded)
- (b) Tag on leaking valve may be removed after it has been monitored for 2 consecutive months and no leaks were detected during these months
- (c) Dates of fugitive monitoring and names of firms conducting these activities
- (d) Leaking component I.D., dates of attempted and actual repair, method of repair
- (e) Reasons for delays of any repairs, date of expected and actual repair

2. Record Keeping Requirements for Sources Subject to this Subpart (records must be stored in a readily accessible location for at least 2 years)

- (a) Identification of all applicable components
- (b) List of all equipment in vacuum service
- (c) List of all "difficult-to-monitor" values, explanation, planned monitoring schedule
- (d) List of all "unsafe-to-monitor" values, explanation, planned monitoring schedule

3. Initial Reporting Requirements

- (a) For equipment in VHAP service: type of equipment, equipment and process unit I.D., percent by weight of VHAP in fluid at the equipment, process fluid state in the equipment (gas/vapor or liquid)
- (b) Method of compliance (e.g. gas blanketing, monthly leak detection and repair)

4. Subsequent Semiannual Reporting Requirements

- (a) Process unit I.D.
- (b) Number of leaks detected
- (c) Leaks not repaired and explanation
- (d) Dates of process unit shutdown
- (e) Revisions to 3.

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**40 CFR 61 Subpart V**  
**National Emission Standard for Equipment Leaks (Fugitive Emission Sources)**

Applicable Sources in VHAP Service (excluding those units in vacuum service)  
 valves, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, flanges or other connectors, product accumulator vessels, control devices or systems

Unit	Leak Definition	Frequency of Monitoring	Leak Repair Requirement
Pumps (Section 61.242-2)	> 10,000 ppmv  Visible Drippings from Pump Seals	Monthly  Weekly unless pump is located within boundary of unmanned plant site - then as often as practical (at least monthly)	1st attempt of repair within 5 days; final repairs within 15 days
Pressure Relief Devices in Gas/Vapor Service (Section 61.242-4)	> 500 ppmv above background	Within 5 days after pressure release	
Sampling Connecting Systems (Section 61.242-5)	"Zero" VHAP Emissions	Must be equipped w/ closed-purge or closed vent system	
Open-Ended Valves or Lines (Section 61.242-6)		Shall be equipped with cap, blind flange, plug, or 2nd valve to seal open end	

**40 CFR 61 Subpart V**  
**National Emission Standard for Equipment Leaks (Fugitive Emission Sources)**

Applicable Sources in VIHAP Service (excluding those units in vacuum service)  
 valves, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, flanges or other connectors,  
 product accumulator vessels, control devices or systems

Unit	Leak Definition	Frequency of Monitoring	Leak Repair Requirement
Valves (Section 61.242-7)	> 10,000 ppmv	Monthly - No leak for 2 consecutive months --> Monitor 1st month of each quarter until leak detected, then monitor monthly	1st attempt of repair within 5 days; final repairs within 15 days
Except those which are "unsafe-to-monitor"	> 10,000 ppmv	As frequent as practical during "safe-to-monitor" periods (written plan)	Ibid.
Except those which are "difficult-to-monitor"	> 10,000 ppmv	At least annually (written plan)	Ibid.
Pressure Relief Devices in Liquid Service and Flanges and Other Connectors (Section 61.242-8)	> 10,000 ppmv	Within 5 days if evidence of a potential leak is found by visual, audible, olfactory, or other detection method	Ibid.